Alexicon
Evaluate – Innovate – Advocate

Notice of Ex Parte Communication
Filed via ECFS

July 18, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: In the Matter of Establishing the Digital Opportunity Data Collection, WC Docket No. 19-195 and Modernizing the Form 477 Data Program, WC Docket No. 11-10

Dear Ms. Dortch:

Randy Tyree of GRTyree Consulting, Jim Meyers of Gila River Telecommunications, Inc., Jeff Wick of Wamego Telecommunications Company, and Zachary Cochran and the undersigned of Alexicon met via teleconference on July 15, 2019 with Randy Clarke and Matthew Tettelbach of Commissioner Geoffrey Starks' office; on July 16, 2019 with Preston Wise of Chairman Ajit Pai's office; and on July 18, 2019 with Travis Litman, Chief of Staff to Commissioner Jessica Rosenworcel. The purpose of these meetings was to discuss broadband mapping issues as shown on the attached presentation. The discussion was focused on issues relevant to small, rural broadband carriers and to items contained in the draft Report and Order and Second Further Notice of Proposed Rulemaking released in the above-captioned proceedings.

Alexicon and the meeting attendees presented the idea of allowing small broadband providers to report deployment subject to a certain margin of error, which should provide a reasonable balance between the accuracy needed and the burden placed on those reporting. In addition, the method discussed would be compatible with the broadband coverage polygon filing method contemplated in the draft Report and Order, and would overlay easily with any location-based method considered such as that discussed in the draft Second FNPRM.

Pursuant to Section 1.1206(b) of the Commission's Rules, this submission is being filed for inclusion in the public record of the referenced proceedings.

Please contact the undersigned if you have any questions.

Sincerely,

/s/ Chris Barron
Chris Barron
Regulatory Director
Alexicon
803-547-9571
chris@alexicon.net

Enclosure

BROADBAND DEPLOYMENT DATA COLLECTION

A Small Company Perspective on Problems and Solutions

Presented by Alexicon

July 2019

AGENDA

- Broadband Deployment Data Collection Problems
- Some Small Company Examples
- Broadband Deployment Data Solutions

Alexicon

BROADBAND DEPLOYMENT DATA COLLECTION PROBLEMS

- The current Form 477 census block-based filing can be both inaccurate and burdensome
- Polygon-based coverage solutions can be burdensome if not done properly and adopted without regard to company size
- Locations included within coverage data are vital, and need to be defined broadly enough to afford flexibility in reporting

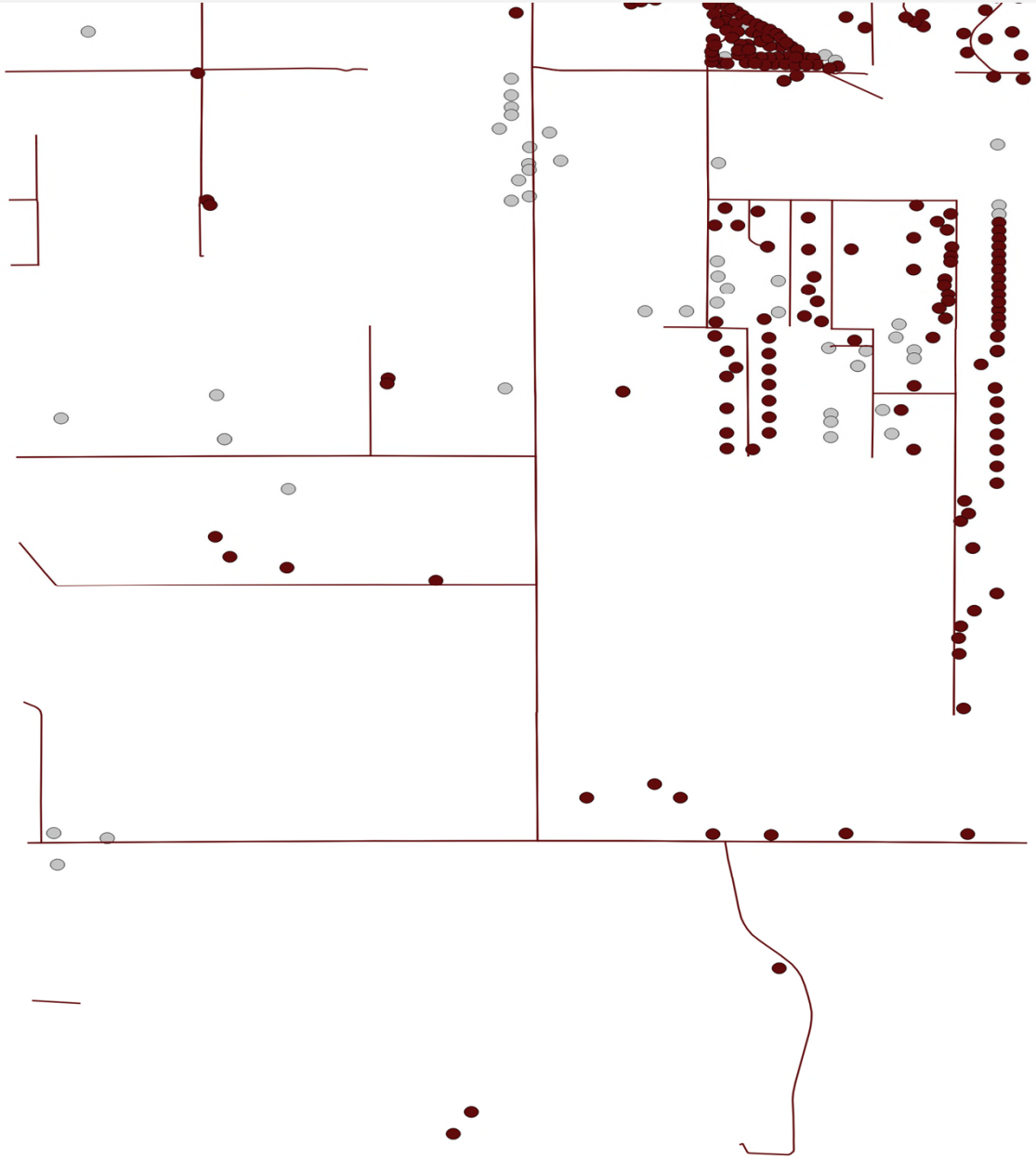
Alexicon

BROADBAND DEPLOYMENT DATA COLLECTION PROBLEMS

SPECIFIC EXAMPLES

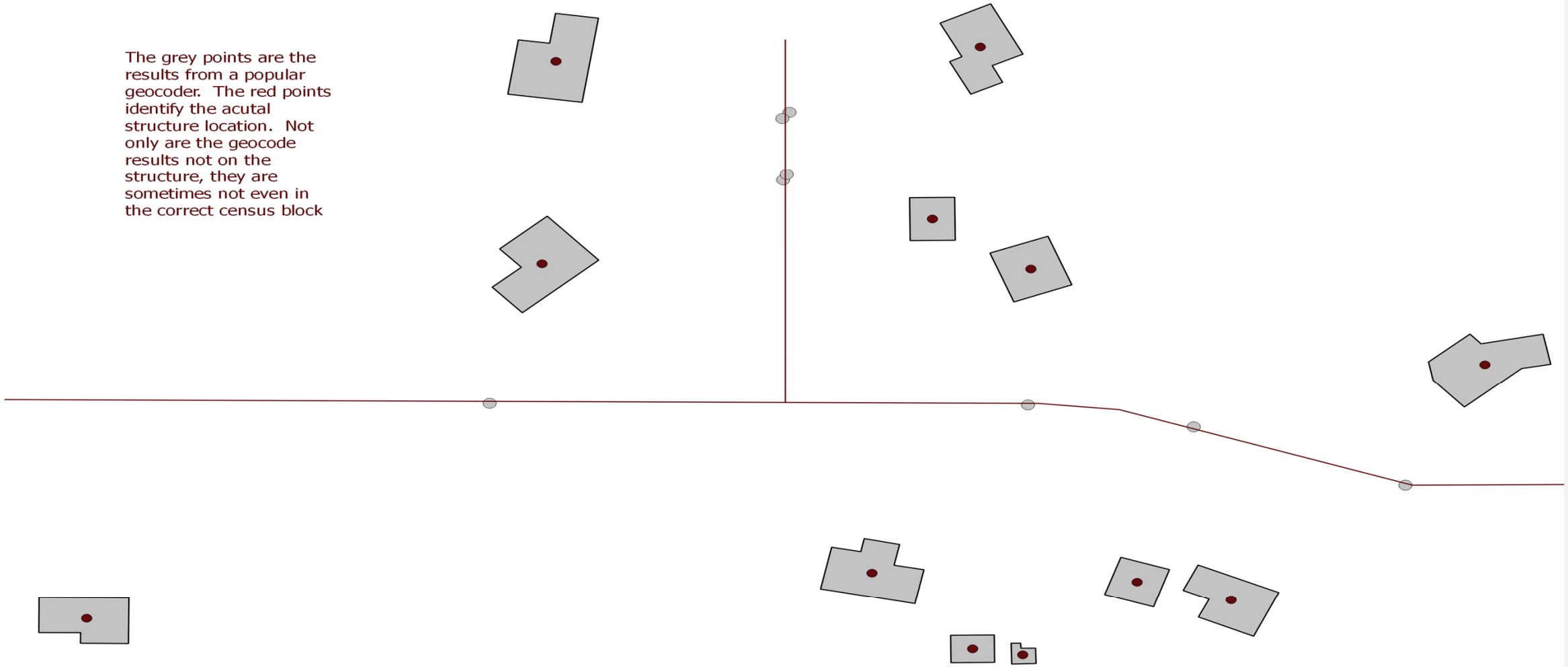
Alexicon

This Map shows a sample of 275 addresses according to a publicly available county assessor database. When we compared geocoder results to actual census shape files we found that 4% were in the incorrect block, and 16% did not generate results at all, leaving 80% accuracy (red points) at the census block level. We also compared reverse geocoded address results to the actual county addresses. The geocoder was accurate 70% of the time at the address level.



Alexicon

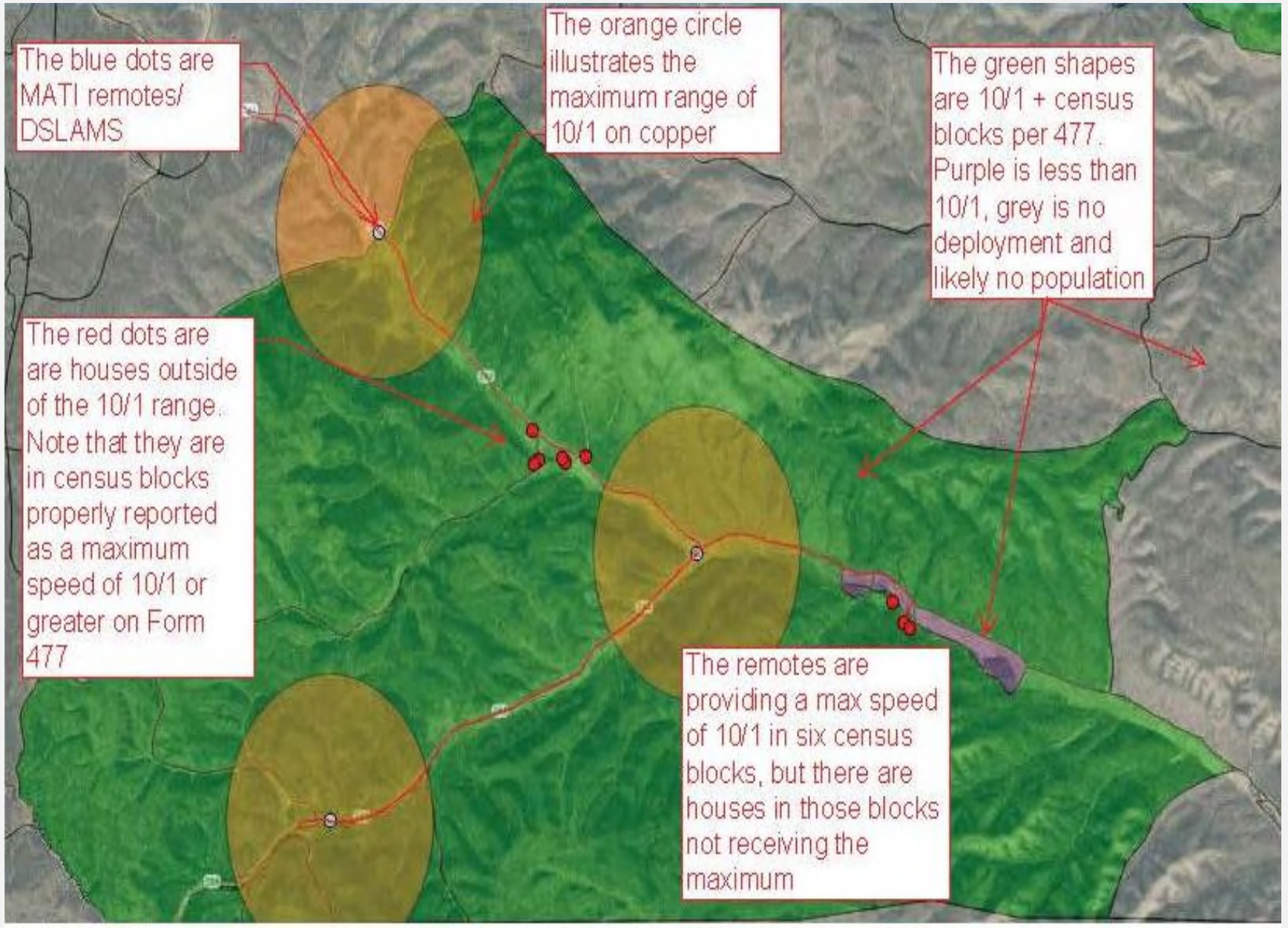
The grey points are the results from a popular geocoder. The red points identify the acutal structure location. Not only are the geocode results not on the structure, they are sometimes not even in the correct census block



Alexicon


These are the same address. The yellow dot is based on the longitude and latitude from the typing the address in the cencus geocoder, the purple is from the county assessor
66920 E COUNTY ROAD 10
080050071013033
The true block appears to be 3036, highlighted yellow for reference
0050071012007
080050071013037
071012008
71012016
E Alameda Ave
E Alameda Ave
E Alameda Ave
080050071012017
66920 E COUNTY ROAD 10
080050071013036
The census geocoder shows this address in block 3037, although the block appears empty
Google
080050071013046

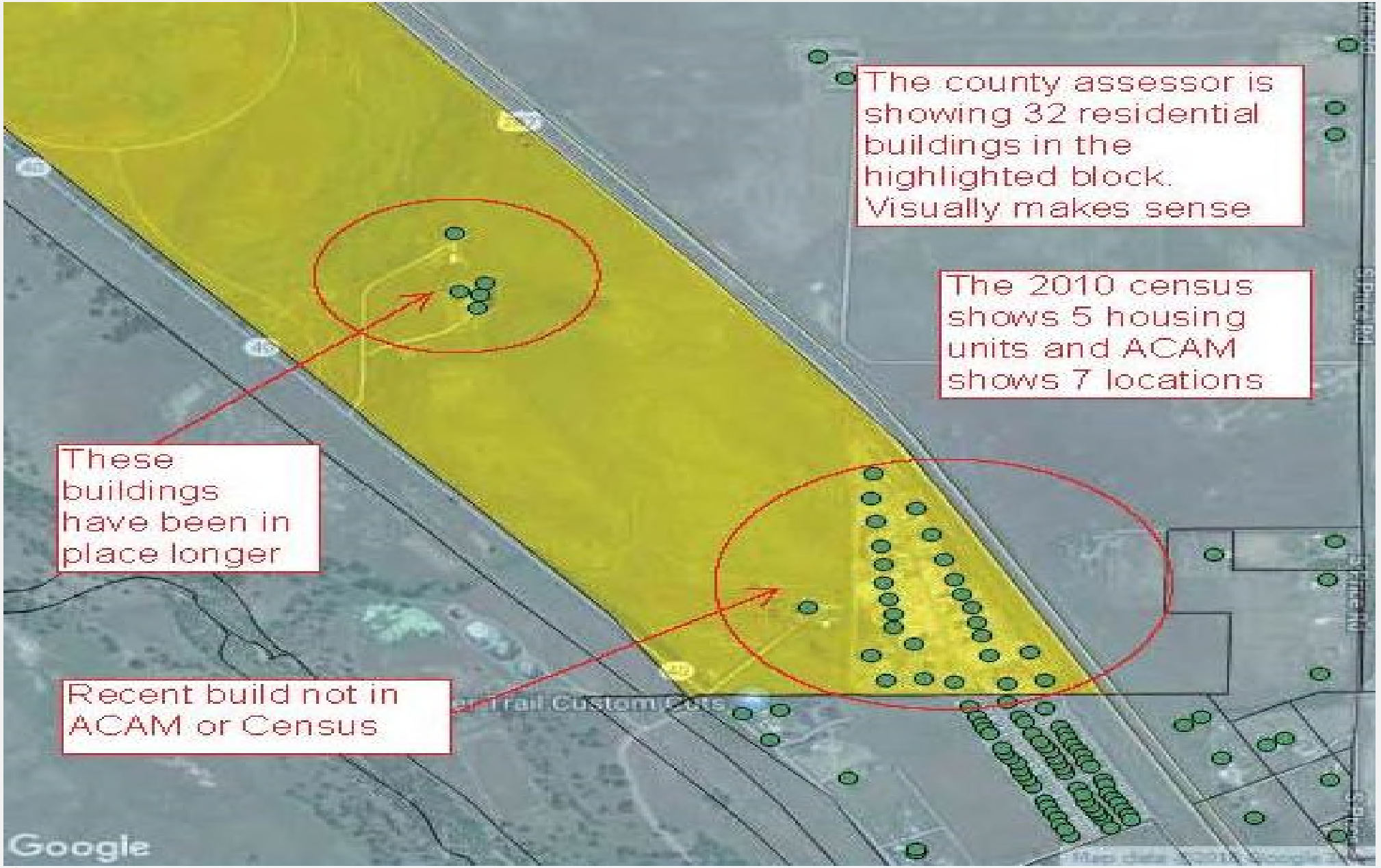
Alexicon


The blue dots are MATI remotes/ DSLAMS
The orange circle illustrates the maximum range of 10/1 on copper
The green shapes are 10/1 + census blocks per 477. Purple is less than 10/1, grey is no deployment and likely no population
The red dots are are houses outside of the 10/1 range. Note that they are in census blocks properly reported as a maximum speed of 10/1 or greater on Form 477
The remotes are providing a max speed of 10/1 in six census blocks, but there are houses in those blocks not receiving the maximum

Alexicon


The county assessor shows two buildings, and Google maps seems to confirm that
This Census Block shows 19 housing units per 2010 Census and 22 ACAM Locations
Google
Map data ©2018 Google Imagery ©2018 , DigitalGlobe, U.S. Geological Survey, USDA Farm Service Agency | Terms of Use

Alexicon


The county assessor is showing 32 residential buildings in the highlighted block. Visually makes sense
The 2010 census shows 5 housing units and ACAM shows 7 locations
These buildings have been in place longer
Recent build not in ACAM or Census
Google

Alexicon

How Many Locations are in this picture?

Alexicon

SMALL COMPANY CONCERNS

- *Gila River Telecommunications, Inc. (AZ)*
  - Accurate addressing is very limited on the reservation, leading missing census block data in billing-based Form 477 reports
  - Significant engineering and consulting time is required to improve accuracy
  - Very large rural census blocks show misleading deployment in copper sensitive areas

- *Smithville Communications (IN)*
  - With a significantly built out fiber to the home network, actual new locations to meet BLS support-based legacy obligations are hard to find
  - An FCC Form 477-based Indiana grant program leaves Smithville struggling to apply for grant money in partially overstated blocks (due to block size) and facing unintended grant funded overbuild in shared blocks
  - A large discontinuous study area leaves it nearly impossible to accurately verify narrowly defined locations

Alexicon

SMALL COMPANY CONCERNS

- Wamego Telephone Company (KS)
  - Wamego slightly crosses some census block boundaries near a neighboring study area and properly reports their build out in those blocks. Kansas maps therefore incorrectly show nearly half of that neighboring town as Wamego served, when in reality they do not provide service there. This limits funding for improved deployment.
  - As a participant in the Kansas broadband map project, Wamego is concerned about the burden of creating multiple maps with different standards. Starting with existing polygon shape files and minimizing burden is important to any new FCC mapping process
  - If a new reporting process seeks to identify where broadband is currently (as opposed to where it is or would be available) there should be:
    - A distinction between completely uninhabited areas (which should not be available for outside funding until inhabited) and inhabited areas that are unserved
    - A reasonable margin of error in polygon file development
    - A challenge process when funding is involved

SOLUTIONS

- Accuracy and burden for polygon-based deployment data reporting
  - Divide census blocks and study areas into manageable sections to improve accuracy
  - The sections can define the margin of error, and limits burden to fit within the defined area
  - Can be submitted as polygon files and used with the method outlined in the FCC's draft Report and Order
    - Can also be used with location-based solutions as overlay step
  - Alexicon has developed a method to establish the manageable sections (grid) and allow for a less-burdensome way to generate polygons for deployment data collection
    - http://www.alexicon.net/maps/gridfccdemo/index.html
- Broadly define "location"
  - Internet of Things implies broadband is needed almost anywhere
  - Precision agriculture relies on broadband, and therefore some out buildings on a parcel could be legitimate serviceable locations, either now or in the future
  - Synchronized and broad location definition would help solve deployment obligation vs reality discrepancies
  - Broader definition lowers the burden and underlying cost of identifying locations

Alexicon

QUESTIONS?

Zachary Cochran
Director of Information Systems
Alexicon, Inc.
719-531-6342
zcochran@alexicon.net

Chris Barron
Regulatory Director
Alexicon, Inc.
803-547-9571
cbarron@alexicon.net

Alexicon